In accord with the limited ownership requirement, Bell Atlantic and Ameritech sold 30 percent of TNZ in 1991 through a worldwide public offering, reducing their combined interest to 68 percent.[313] Both companies reduced their holdings further through private sales. As of 1995, Bell Atlantic and Ameritech each had a 24.8 percent interest in TNZ.[314] The Capital Group owns 7.47 percent, Rontas Holdings 2.3 percent, and Fay Richwhite 1.3 percent.[315]

Also as a condition of sale, the New Zealand government retains a Kiwi (or golden) share with special voting rights to control the maximum shareholding of any single foreign investor and transfers of blocs of shares among parties, and to ensure TNZ's compliance with its residential services pledges.[316]

In 1991, Clear Communications (Clear) introduced the first wire-based telephony service to compete with that of TNZ. Clear began to offer domestic long-distance service in April 1991 and international long-distance services by December of the same year.[317] As of 1995, Clear offers private network services in addition to its domestic and international long-distance services, and it will soon provide local exchange services for business customers.[318]

One aspect of Clear's telephone service has limited its market penetration. Clear customers had to dial an access code to receive Clear's service. Clear has been able to offer customers its long-distance service without the need to dial an access code since April 1993, but the carrier has not yet introduced the non-access code service because Clear would have to pay an additional interconnection fee to TNZ.[319] By 1995, Clear had succeeded in capturing over 22 percent of the domestic long-distance market and 23 percent of the international long-distance market.[320]

313. BELL ATLANTIC CORP., 1994 FORM 10-K, at 19 (1995).

314. AMERITECH CORP., 1994 FORM 10-K, at 6 (1995).

315. *Williamson Letter, supra* note___, at 2.

316. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 7.

317. TELECOM CORP. OF NEW ZEALAND LTD., 1994 SEC FORM 20-F, at 12 (1994).

318. *Id.*

319. *Id.*

320. *Williamson Letter, supra* note___, at 4.

Like TNZ, Clear's ownership includes two major foreign telecommunications operators. MCI and BCE each own 25 percent of Clear; New Zealand Television Limited and the Todd Corporation Limited also own 25 percent each.[321]

To provide international telephone call service, a company must be a licensed international operator. Five companies hold such a license: TNZ, Clear, Optus, Television New Zealand Ltd., and Global Telecom Systems Ltd.[322]

Pay Television. In 1991, Bell Atlantic and Ameritech joined with Tele-Communications, Inc. (TCI) and Time Warner to increase their investment in the New Zealand telecommunications industry even further. The four American companies together purchased 51 percent of Sky Network Television Ltd.[323] The infusion of capital has allowed for a more rapid expansion of Sky Network's expansion of its pay television service throughout New Zealand.[324]

Wireless. Three companies hold licenses to operate cellular telephony networks in New Zealand: TNZ, BellSouth, and Telstra Corporation Limited (Telstra).

TNZ operates two cellular networks, one analog and one digital. TNZ was New Zealand's first and only cellular provider when it introduced its analog cellular service in 1987.[325] TNZ has continued to expand its analog network over the years so that by 1995 it covered approximately 95 percent of New Zealand's population.[326]

TNZ obtained a second cellular license and began offering service over a digital cellular network in December 1992. TNZ's digital cellular network now provides service to Auckland, Wellington, and Hamilton. TNZ intends to expand the digital cellular service to cover the entire nation.[327] TNZ's digital cellular network does not operate on the GSM standard, so its customers cannot also use their same telephone handsets in Europe. TNZ has invested over

321. *Id.* at 3; BCE INC., 1994 SEC FORM 40-F, at 25 (1995).
322. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 10.
323. *Williamson Letter, supra* note___, at 3.
324. *Id.*
325. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 6.
326. TELECOM CORP. OF NEW ZEALAND LTD., 1994 20-F, at 8 (1994).
327. *Id.*

NZ$300 million to develop its cellular networks, and it plans to invest another NZ$90 million during 1995.[328]

Partly due to its years of cellular operation without any competitors and partly due to its overall strength as the nation's primary telecommunications provider, TNZ leads the other participants in New Zealand's cellular sector. TNZ markets its service itself and through four other resellers: Comtel, Ericsson, Cellnet, and Motorola.[329] During the two-year period of 1993–94, TNZ doubled its cellular subscribership to 207,000—a penetration rate of 6 percent.[330]

In 1990, BellSouth New Zealand Ltd. (BellSouth NZ) became the second cellular licensee in New Zealand when it purchased for NZ$25 million a cellular license from the government.[331] In March 1993, BellSouth NZ began providing the first cellular service to compete with that offered by TNZ.[332] BellSouth NZ operates a digital GSM network. BellSouth NZ introduced service in Auckland in July 1993 and in Wellington in 1994, and it plans eventually to cover over 80 percent of New Zealand's population.[333] BellSouth owns 80 percent of BellSouth NZ. Singapore Technology Ventures Proprietary Ltd., a holding company of the Singapore government, owns the remaining 20 percent of BellSouth NZ.[334]

In May 1993, Telstra won a license to provide a digital GSM cellular service.[335]

The Success of New Zealand's Deregulatory Policy. New Zealand's deregulation of telecommunications has spurred significant capital investment. From the beginning of deregulation in 1987 and the end of 1994, TNZ invested over NZ$4.1 billion in network modernization and service enhancement.[336] Now, more than 97 percent of access

328. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 6.

329. *Id.* at 8.

330. MERRILL LYNCH, NEW ZEALAND TELECOM: SOLID QUARTER RAISING ADR RECEIPTS (Feb. 16, 1995).

331. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 8.

332. TELECOM CORP. OF NEW ZEALAND LTD., 1994 20-F, at 13 (1994).

333. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 8.

334. *Williamson Letter, supra* note___, at 4.

335. TELECOM CORP. OF NEW ZEALAND LTD., 1994 20-F, at 14 (1994).

336. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at.

lines are connected to digital switches; by 1998, Telecom's telephone network will be entirely digitally switched.[337]

The next two largest telecommunications operators, BellSouth and Clear, have not invested at the same level as TNZ, but both, as relatively new market entrants, have nonetheless made significant investments. Bell South currently employs over 100 people and has invested NZ$200 million to develop its cellular network.[338] Clear employs approximately 630 people and has invested over NZ$207 million in fixed assets in New Zealand.[339]

Competition and high capital investment have drastically improved telecommunications services for New Zealand's consumers. Most rural consumers now enjoy the same standard of service as urban users, and new network investment has enabled the introduction of services such as electronic funds transfer at point of sale in many rural communities.[340] The waiting period for a new telephone connection is 48 hours, a considerable improvement over the former state of affairs in which 15,000 people at a time would wait for many months to be connected.[341] More than 90 percent of residential telephone faults are repaired by 5:00 P.M. the next business day. Business consumers can now receive enhanced services such as ISDN and frame relay, offerings which foreshadow growth in computing services, and, in time, broadband video services.[342] And more than 98 percent of TNZ's payphones are in working order at any one time, compared with just 76 percent in 1988.[343]

Consumers enjoy these improved services at lower costs. Since the deregulation of the telecommunications services sector in March 1989, the cost of long-distance calls declined by an average of 10.8 percent per year, and by 1989, TNZ had already decreased its prices substantially in preparation for the advent of competition.[344] Charges for domestic long-distance calls have fallen by up to 50 percent in

337. *Id.*
338. *Id.* at 8.
339. *Williamson Letter, supra* note___, at 4.
340. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 5.
341. *Id.*
342. *Id.*
343. *Id.* at 4.
344. *Id.* at 12.

real terms.[345] Business rental tariffs were reduced by nearly 40 percent.[346]

Finally, competition has reduced the opportunity for cross-subsidization in the telecommunications industry. While the average cost of a long-distance call was falling in New Zealand, the average real telephone access line rental and installation costs increased by nearly 2.9 percent per year.[347]

Summary and Implications. Since 1987, deregulation and competition have significantly improved the efficiency and quality of telecommunications services in New Zealand, to the benefit of both business and residential customers.[348] The government's receptivity to foreign investment fostered considerable capital investment in New Zealand's public telecommunications network by TNZ, Clear Communications, BellSouth, and Telstra.[349] In the words of the Minister of Commerce: "the benefits of reform have, so far, been impressive and have exceeded expectations at the time that the decision to deregulate fully was announced in December 1987."[350]

Japan

The Japanese government traditionally maintained strict control over the country's telecommunications industry. But with the difficulty inherent in trying to orchestrate progress through central planning in the increasingly complex field of telecommunications, the Japanese government decided that the future development and operation of their telecommunications markets would be navigated most efficiently and productively through private ownership and competition. So in 1985, the Japanese government began privatizing and liberalizing all sectors of its telecommunications industry.

Japan's telecommunications services market is second in size only to that of the U.S. Despite the size of its markets, Japan has not achieved the high level of development in the emerging telecom-

345. *Williamson Letter, supra* note___, at 4.
346. *Id.*
347. NEW ZEALAND MINISTRY OF COMMERCE, *supra* note___, at 12.
348. *Id.* at 18.
349. *Id.*
350. *Id.*

munications markets that the U.S. has achieved.[351] Japan's traditional telephony infrastructure is relatively mature, but the country lags far behind the U.S. in cellular penetration and broadband infrastructure development. As of 1992, nearly 58 million telephone lines served Japan's 123.4 million people, amounting to a telephone penetration rate of 46.74 telephone lines per 100 inhabitants, compared to 56.49 lines per 100 inhabitants in the U.S.[352] The wireless sector has low penetration for such a wealthy country—only 1.6 percent of the population.[353] The low penetration combined with the introduction of competition suggest that subscribership will grow substantially. Finally, despite claims by Japanese officials that the country will have a nationwide broadband network in place and operational by 2010, new entrants, with foreign participants, are just beginning to develop the cable television market.

Japan has witnessed the early benefits of competition and increased investment in its telecommunications markets, but, like other countries, only the less mature markets have actually been opened to foreign participation. Japan has a 33 percent cap on foreign ownership of telecommunications licensees. However, the investment by foreign firms, particularly American, remains relatively limited, with appreciable levels of investment occurring only in the wireless and cable television industries.

Telephony. Until 1985, Japan's national telecommunications operator was part of the Ministry of Posts and Telecommunications (MPT). In 1985, the Japanese Diet passed the Nippon Denshin Denwa Kabushiki Kaisha Law (the NTT law). Pursuant to this law, Nippon Telegraph and Telephone Corporation (NTT) was incorporated as an ordinary business corporation, and Nippon Telegraph and Telephone Public Corporation was dissolved. Also pursuant to the NTT law, the MPT began to privatize NTT in 1986. Shares were sold in three domestic public offerings; the second and third offerings were held in 1987 and 1988. Through these three offerings, the government sold a total of 34.37 percent of NTT, raising more than $12 billion.[354] The NTT

351. *Colossus at bay*, ECONOMIST, Dec. 10, 1994, at 63.
352. ITU WORLD DEVELOPMENT REPORT, *supra* note___, at A-39.
353. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).
354. ITU WORLD DEVELOPMENT REPORT, *supra* note___, at 56.

law stipulates that the government shall reduce its ownership of NTT to 33.3 percent, but the government has delayed any further sale for several years because of unfavorable stock market conditions.

The Telecommunications Business Law, also passed in 1985, liberalized the telecommunications services sector in Japan. The law ended NTT's monopoly status as the provider of local and domestic long-distance telephony service and the monopoly status of privately owned Kokusai Denshin Denwa (KDD) as the sole provider of international long-distance service. The law differentiates between re-sellers of value-added services (designated as Type II operators), who need only register with the MPT, and facilities-based operators (designated as Type I operators), who must obtain a license from the MPT.[355]

Under the Telecommunications Business Law and the Electric Wave Law (the law governing the allocation and use of radio spectrum rights), the MPT has the authority to grant telecommunications licenses. These laws restrict foreign participation in, or ownership of, a telecommunications licensee in three ways. First, the percentage of a telecommunications licensee held directly or indirectly by foreigners shall be less than one-third of the licensee's total voting rights. Second, the number of foreigners who may be elected as directors shall be less than one-third of the total number of directors. Third, foreign companies and foreign persons may not be selected as the representative director or other representative position of the licensee.[356]

Also, until 1992, foreign nationals and foreign corporations were prohibited from owning any share of NTT or KDD. Under an amendment to the NTT law that became effective in August 1992, foreign nationals and foreign corporations may own any amount less than 20 percent of either company's total voting equity.[357] Article 4(2) of the NTT law defines the applicable foreign entities as:

> (1) any person who does not have Japanese nationality;

355. *Id.* at 61.

356. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).

357. INTERNATIONAL TELECOMMUNICATIONS UNION, *supra* note___, at 60.

(2) any foreign government or any of its representatives;

(3) any foreign juridical person or association; and

(4) any juridical person or association whose proportion of voting rights directly owned by persons or bodies described in any of the preceding three items is equal to or higher than the proportion to be specified by the applicable ordinance of the Japanese Ministry of Posts and Telecommunications.[358]

Competition is slowly emerging in segments of Japan's basic voice telephony market, and several foreign companies have limited equity stakes in the entrants. KDD now has two competitors (both licensed in 1988) providing international telecommunication services in Japan: International Digital Communications (IDC) and International Telecom Japan. IDC's ownership structure exemplifies a common arrangement in many countries undergoing liberalization of their telecommunications industries. Large and influential domestic corporations with no background in telecommunications bring in a foreign telecommunications firm (or several) as a minority investor for its experience and technological expertise, and the foreign firm readily accepts the opportunity to participate as a minority investor in the hope of leveraging its initially limited role into a greater presence in the country's telecommunications industry. Itochu and the Toyota Motor Corporation are IDC's principal shareholders. Cable & Wireless and AirTouch both have minority interests, 17.6 percent and 10 percent respectively.[359] As of 1994, IDC had captured 19 percent of Japan's international traffic.[360]

Three companies, all licensed in 1986, compete with NTT in long-distance telephony: DDI Corporation, Japan Telecom, and Teleway Japan Corporation. Together, these three companies have

358. *Id.*

359. CABLE & WIRELESS, PLC, 1994 SEC FORM 20-F, at 40 (1994); AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 64 (1995).

360. CABLE & WIRELESS, PLC, 1994 SEC FORM 20-F, at 40.

garnered nearly one-third of Japan's domestic long-distance market.[361] Kyocera Corporation, a large Japanese ceramics corporation, owns 22.34 percent of DDI.[362] Two British international investment trusts each own a small interest in DDI.[363] As of June 1, 1994, Toyota Motor Corporation owned 6.9 percent of Teleway Japan and had announced its intention to participate in Teleway's capital increase, thereby raising Toyota's interest in Teleway to 40 percent.[364] The MPT has not indicated whether it will license any other operators to compete in the long-distance market in the near future.

Six companies, all affiliates of local electricity firms, are already licensed to operate local telephone networks.[365] These companies, of which TT Net operates in the Tokyo area, have difficulty gaining any appreciable market share because NTT cross-subsidizes its local services with long-distance revenues to offer local calls below cost. Despite the local service rate increase implemented by NTT in February 1995—the first allowed by the MPT since 1976, the competitive entrants, realistically, will only be able to penetrate the local telephony market once NTT has normalized further its rates for local and long-distance calls.

Cable Television and Telephony. Cable networks are relatively undeveloped in Japan, but with revision of the regulation that hindered maturation of the cable market, the Japanese cable television and telephony industry are poised for tremendous growth.

Cable television operators in Japan have achieved only a very low penetration rate. Less than 5 percent of the forty-two million homes with televisions currently subscribe to cable service.[366] A

361. *Colossus at bay*, ECONOMIST, Dec. 10, 1994, at 63.

362. KYOCERA CORP., 1994 ANNUAL REPORT 34 (1994).

363. DUNEDIN JAPAN INVESTMENT TRUST PLC, 1994 ANNUAL REPORT AND ACCOUNTS 15 (1994) (a fraction of 1 percent); GOVETT ORIENTAL INVESTMENT TRUST PLC, 1994 ANNUAL REPORT AND ACCOUNTS 7 (1994) (0.66 percent).

364. FINANCIAL TIMES BUSINESS ENTERPRISES LTD., FINANCIAL TIMES MERGERS & ACQUISITIONS DATABASE: TELEWAY JAPAN AND TOYOTA MOTOR CORP. (June 1, 1994).

365. *Colossus at bay*, ECONOMIST, Dec. 10, 1994, at 64.

366. Norihiko Shirouzu, *After Years of Static, Japanese Cable Changes Channels*, WALL ST. J., Feb. 9, 1995, at B4 [hereinafter *After Years of Static*]; Eben Shapiro & Norihiko Shirouzu, *Time Warner, Allies Mull Japan Cable Project*, WALL ST. J., Dec. 27, 1994, at A3.

poll conducted in 1994 revealed that 60 percent of Japanese consumers had never heard of cable television.[367] These market conditions appear to be changing, however. Subscriptions to cable television service are increasing at an annual rate of 50 percent, and MPT officials predict that by 2010 cable television and telephony penetration will reach 60 percent.[368]

The current low penetration rate is partly attributable to poor programming and high costs. The high costs stem from a regulatory apparatus that has only recently been revised. Until 1993, cable operators were confined to one geographic area and had to be owned by local entities. Such requirements prevented the creation of large multiple systems operators (MSOs) that could achieve economies of scale in programming, network development, and customer billing.[369] In December 1993, the MPT abolished the geographic and local ownership restrictions and began to allow cable television companies to provide telephony services on an experimental basis.[370] Since November 1994, cable companies have been able to apply for permanent telephony licenses.[371] Though the regulation may change as the cable television market matures, NTT presently may not provide video programming over its networks, and it may own no more than 3 percent of cable systems; NTT currently holds small shares in twenty-nine cable companies.[372]

The opportunity created by the abolition of the geographic and local ownership restrictions and the establishment of cable telephony licenses has prompted the formation of three major joint ventures that intend to build and operate multimedia broadband networks in Japan, providing both video programming and telephony services. These three ventures are Jupiter Telecommunications Company, TITUS, and CT Telecom.

367. Shirouzu, *After Years of Static, supra* note___.

368. David P. Hamilton, *Big Fiber-Optic Project is Private Sector's Job, Japan's Reformers Say*, WALL ST. J., Aug. 15, 1994, at A1 [hereinafter *Big Fiber-Optic Project*].

369. Andrew Pollack, *Time Warner in Japanese Cable Venture*, N.Y. TIMES, Jan. 10, 1995, at D2.

370. Hamilton, *Big Fiber-Optic Project, supra* note___.

371. *Colossus at bay*, ECONOMIST, Dec. 10, 1994 at 64.

372. Shirouzu, *After Years of Static, supra* note___.

Tele-Communications Inc. (TCI), the largest cable television MSO in the U.S., formed Jupiter with Sumitomo Corporation of Japan. Together, the two companies intend to invest approximately $500 million during the late 1990s to build a network of broadband cable systems capable of providing both video programming and telephony services.[373] TCI owns 40 percent of the joint venture, and Sumitomo owns 60 percent.[374] The MPT has allowed TCI's interest to exceed the 33.3 percent limit on foreign ownership purportedly because the government views the MSO's main function as investing in cable television systems, not directly managing the broadcasters.[375] Presumably, the MPT, in waiving the foreign ownership limit, also recognized the value of the foreign capital in developing a nationwide broadband network.

Sumitomo already owns interests ranging from 0.3 percent to 80 percent in 31 cable systems. Until now, each system has been managed independently, but Sumitomo intends to contribute these systems gradually to the Jupiter venture. Sumitomo initially will transfer six cable systems, covering 775,000 homes in Tokyo, of which 30,000 have already subscribed. The Tokyo systems include those operating in Suginami Ward, Nerima Ward, and the Fuchu area.[376]

Jupiter will compete against TITUS, a joint venture of Toshiba, Itochu, Time Warner, and U S West. In January 1995, the four companies announced that they would invest $400 million to develop an MSO that would initially provide cable television services in ten or more areas of Japan, each with 150,000 to 200,000 households.[377] Together, Itochu and Toshiba hold a majority 56.8 percent interest in Titus—each own 28.4 percent. The American companies hold directly the maximum foreign ownership allowed, 33.3 percent; Time Warner owns 15.4 percent, and U S West owns 17.9 percent.[378] Indirectly, the foreign ownership of TITUS actually

373. *Id.*

374. Norri Kageki, *U.S. cable-TV titan enters Japan venture: Tele-Communications, Sumitomo target new media*, NIKKEI WEEKLY, Dec. 12, 1994, at 8 [hereinafter *U.S. cable-TV titan*].

375. *Id.*

376. *Id.*

377. Pollack, *Time Warner in Japanese Cable Venture, supra* note___, at D2.

378. *Id.*

exceeds the one-third cap because the remaining 9.9 percent of TITUS is owned by Time Warner Entertainment Japan Inc. (TWEJ), a joint venture company established by the same four companies to expand and develop the market for entertainment services in Japan.[379] In connection with its investment in Time Warner Entertainment, U S West owns 12.75 percent of the common stock of TWEJ.[380] Itochu and Toshiba both own 25 percent of TWEJ, and Time Warner owns the remaining 37.25 percent.[381]

Several months before the creation TITUS, Time Warner and U S West became the first foreign companies to acquire an equity stake in the Japanese cable television market when they jointly purchased one-third of Chofu Cable Television KK (Chofu) from Itochu.[382] Chofu operates a cable television system in the Tokyo metropolitan area.[383] Itochu, Time Warner, and U S West will likely transfer Chofu to TITUS.

Continental Cablevision and Tomen, a Japanese trading company, are forming a third joint venture, called CT Telecom, that will compete as an MSO with both Jupiter and TITUS. Terms of the agreement are not yet available. The deal should be completed during the first half of 1995.[384]

Wireless. Burdensome regulation and high prices have constrained the growth of the Japanese wireless telephony market. By removing regulatory impediments and introducing effective and pervasive competition, however, the MPT has ended the lethargy and permitted rapid growth to take place in the wireless telephony sector. Until the mid-1990s, growth in the Japanese wireless market was sluggish and penetration remained relatively low—approximately 1.6 percent.[385]

379. *Id.*

380. U S WEST INC., 1994 ANNUAL REPORT 39 (1995).

381. Toru Hirose, *Toshiba Plays Supporting Role in Showbiz Venture: Partnership Strategy Pays Off With Stable Time Warner Ties*, NIKKEI WEEKLY, Dec. 4, 1994, at 8.

382. *Itochu Corp.: Time Warner, U S West Buy Stakes in a Cable-TV Unit*, WALL ST. J., Nov. 15, 1994, at A19.

383. *U S West, Time Warner to Buy into Chofu Cable*, NIKKEI WEEKLY, Nov. 21, 1994, at 9.

384. Andrea Hirsig, *Continental in Japan venture*, HOLLYWOOD REP., Mar. 21, 1995, at 24.

385. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).

Several factors contributed to the low penetration rate, including the relatively high activation, access, and usage charges associated with NTT's analog cellular service; the only recent introduction of wireless competitors; and the traditional MPT requirement that subscribers lease rather than purchase their cellular telephones. The MPT adopted regulations as of April 1, 1994 permitting subscribers to own their cellular telephones,[386] but the cost of service remained high: $1,000 to purchase the cellular telephone, $400 to register for service, $95 for the monthly access fee, and 60 cents per minute for usage.[387] In December 1994, the MPT took further measures to stimulate growth in the wireless telephony market by authorizing substantial cuts in subscription fees, weekend and holiday rates, and handset purchases and rental fees.[388] The added competition within the cellular market, as well as the competition that will result from the introduction of the new wireless technology known as the Personal Handy Phone System (PHS), will reduce the price of cellular service and further expand demand in the wireless telephony market.

The Japanese cellular market is divided into eleven regions.[389] Currently, two operators compete in each region, providing analog service: NTT (the only nationwide operator) and a regional operator. The MPT awarded additional spectrum to each of these operators to provide digital cellular service by the end of 1994. In some of the regions, the MPT awarded a third license to provide digital service, and may, in the near future, license a fourth.[390]

As a result of market liberalization and the allowance for new competitive entrants, the MPT has sparked what appears to be a period of accelerating growth in the Japanese wireless telecommunications market. With the introduction of PHS service and the added competition in the cellular market, the price of wireless telephony service in Japan will likely decrease. The low penetration rate, the establishment of competition in the wireless market, and the expected decrease in the cost of service combine to yield attractive conditions for tremendous growth over the next decade. In 1993, cellular

386. *Id.*

387. *Japan Calls It PHS and Competitors Listen*, WALL ST. J., Mar. 28, 1995, at A19 (advertising section) [hereinafter *Japan Calls it PHS*].

388. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 7 (1995).

389. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).

390. *Id.* at 15.

operators added 30,000 subscribers per month; by the end of 1994, that number had risen to 300,000 new subscribers per month, and the entire market, at that point, totaled 3.5 million cellular subscribers, generating $3.5 billion in annual revenue.[391] The total number of subscribers for wireless telephony services is expected to reach 5.5 million by the end of 1995, and 20 million by 2000.[392]

NTT and its affiliates control over 80 percent of Japan's wireless market. DoCoMo, NTT's wholly owned cellular subsidiary, itself controls 60 percent of the total market.[393] DoCoMo operates a nationwide analog cellular network and was awarded additional spectrum to introduce digital service by the end of 1994.[394]

NTT competes in various regions with three digital cellular operators: the Digital Phone Group, IDO Corp., and DDI Corp. Of the three, the Digital Phone Group, which is actually an association of three separate cellular operators, has the largest foreign equity participation. AirTouch and Cable & Wireless have significant equity stakes in each of the three Digital Phone Group companies. A group of Japanese corporations, including Japan Telecom as lead partner, a regional railway company, and Toyota Motor Corporation, own a majority of the Digital Phone Group. AirTouch is the second largest shareholder in the three companies, which are licensed to build and operate digital cellular systems in the Tokyo, Kansai, and Tokai regions. The three systems are expected to be able to reach seventy-four million people, or 60 percent of the Japanese population.[395] By the end of 1994, just nine months after the group initiated service, the three companies collectively served 180,000 customers.[396]

The Tokyo Digital Phone Company (TDP) operates a digital cellular network in the Tokyo metropolitan region, covering thirty-nine million people. AirTouch has owns 15 percent of TDP.[397] Cable & Wireless owns 8 percent.[398]

391. *Nokia Walks Softly But Carries A Big Stick*, WALL ST. J., Mar. 28, 1995, at A20 (advertising section).

392. *Id.*

393. *Colossus at bay*, ECONOMIST, Dec. 10, 1994, at 64.

394. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 15 (1994).

395. *Id.*

396. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 6 (1995).

397. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).

398. CABLE & WIRELESS, PLC, 1994 SEC FORM 20-F, at 40 (1994).

The Kansai Digital Phone Company operates a digital cellular network in the Kansai region of western Japan, an area with approximately twenty-one million people that includes Osaka, Kyoto, and Kobe. AirTouch owns 13 percent of KDP.[399] Cable & Wireless owns 7.2 percent.[400]

The Central Japan Digital Phone Company (CDP) operates a digital cellular network in the Tokai region of central Japan. The region has more than fourteen million people; its principal city is Nagoya. AirTouch owns 13 percent of CDP.[401] Cable & Wireless owns 7.2 percent.[402]

AirTouch has provided experiential and technical leadership to the Digital Phone Group, appointing the engineering director for each company and assisting in the preparation of business plans. AirTouch has also advised the Digital Phone Group on how the three separate operators can function as one network with common marketing and pricing policies and equipment offerings.[403]

AirTouch also has a 4.5 percent interest in each of two other cellular operators, one serving the Kyushu/Okinawa region, the other serving the Chugoku region.[404] Both operators are expected to begin service in 1996.[405] All five of the cellular operators in which AirTouch has an equity interest, in total, will serve regions with about ninety-five million people, or 75 percent of the Japanese population.[406]

The IDO Corp. operates both an analog and a digital cellular network in the Tokyo-Nagoya corridor.[407] NTT is both a competitor and a partner of IDO.[408]

DDI Corp. has eight cellular subsidiaries throughout Japan. As of July 1994, DDI had 561,900 cellular subscribers and a subscribership growth rate of 5 percent per month.[409]

399. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).
400. CABLE & WIRELESS, PLC, 1994 SEC FORM 20-F, at 40 (1994).
401. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).
402. CABLE & WIRELESS PLC, 1994 SEC FORM 20-F, at 40 (1994).
403. AIRTOUCH COMMUNICATIONS, INC., 1993 SEC FORM 10-K, at 14 (1994).
404. AIRTOUCH COMMUNICATIONS, INC., 1994 ANNUAL REPORT 64 (1995).
405. *Id.*
406. *Id.*
407. David P. Hamilton, *Motorola Settles Cellular Dispute With Japanese*, WALL ST. J., Mar. 11, 1995, at A8.
408. *Id.*
409. Robert Steiner, *Japan's Information Highway is Pricey*, WALL ST. J., Aug.

Additional competition will emerge in Japan's wireless markets with the development of the Personal Handy Phone System (PHS). PHS is similar but not identical to the American personal communications services (PCS) technology. PHS is a Japanese standard for portable telephones that uses very low-power transmitters operating within a small radius. PHS is cheaper to install and operate than a cellular network. Handsets are smaller and lighter than conventional cellular telephones because of the reduced battery power required.[410]

Three consortia hold licenses to provide PHS services in Japan: a group led by DDI; a group of nine companies affiliated with NTT; and Astel, a consortium of ten companies, including Mitsubishi Power.[411] Each group hopes to carve for itself a large portion of what is predicted to become by 2005 a market of 10 million subscribers generating annual sales of $14 billion.[412] Demand is also projected to quadruple in the five years thereafter.[413]

The vast growth potential believed to exist for the PHS market has attracted significant interest from foreign companies. Cable & Wireless has made the most significant investment thus far. In February 1995, Cable & Wireless acquired 5 percent of NTT Central Personal Communications Network (CPCN)—the group of nine companies affiliated with NTT—for $15.5 million, making Cable & Wireless the third largest shareholder in the PHS venture.[414] CPCN will begin providing PHS service in July 1995. Many other large foreign telecommunications firms, including BT, France Telecom, U S West, and NYNEX are believed to be exploring investment opportunities in the other PHS operators.[415]

17, 1994, at C1.

410. Michiyo Nakamoto, *C&W invests £10m in new Japanese telecoms format*, FIN. TIMES, Feb. 24, 1995, at 5.

411. *Id.*

412. *Japan Calls It PHS, supra* note___.

413. Nakamoto, *C&W invests £10m, supra* note___.

414. *Id.*

415. *Japan Calls It PHS, supra* note___.

SOUTH AMERICA

Chile

Chile, the first Latin American country to privatize its telecommunications industry, has cultivated one of the world's most competitive and open telecommunications environments. Chile is the only country in Latin America with a completely liberalized telecommunications market.[416] For most of Chile's history, telecommunications operators were privately held and open to foreign direct investment. In the early 1970s, however, the state nationalized the country's telecommunications operators. Then in the late 1970s, the Chilean government began steps toward privatization and liberalization, which were completed in the late 1980s.

With a population of just under fourteen million people, Chile is a telecommunications market of modest size.[417] Nonetheless, since privatization and liberalization, the country's telecommunications industry has experienced significant growth, and investment in the country's telecommunications infrastructure, from both domestic and international sources, remains high.

Telephony. Telecommunications services in Chile have traditionally been shared by two companies, one controlling the local exchanges, the other providing long-distance services. Compañia de Teléfonica de Chile (CTC) provided, on a nearly exclusive basis, the country's local telephone services. Empresa Nacional de Telecomunicaciones (ENTEL) provided, on an exclusive basis, the country's domestic and international long-distance services.

Beginning in 1930, International Telephone & Telegraph (ITT) owned 80 percent of CTC.[418] In 1971, Salvador Allende, Chile's recently elected Marxist president, decreed that the government assume control of CTC. To postpone having to compensate ITT for

416. TPG RESEARCH & REPORTS, LATIN AMERICAN TELECOMMUNICATIONS: EXECUTIVE SUMMARY 3 (1995); Nomura Equity Research, Latin America Telecommunications Regulatory Symposium Transcript 10 (Apr. 25, 2995) (remarks of Jorge Rosenblut, Undersecretary of Telecommunications, Chile) [hereinafter *Rosenblut Remarks*].

417. ITU WORLD DEVELOPMENT REPORT, *supra* note___, at A-1.

418. *See* ANTHONY SAMPSON, THE SOVEREIGN STATE OF ITT (Stein & Day 1973).

CTC, the Allende government did not formally expropriate CTC. Two years later, Allende died in the military coup that brought Augusto Pinochet to power. Pinochet agreed to pay ITT the full amount that it requested for CTC. In 1974, the Corporacion de Fomento de la Produccion (CORFO) bought ITT's entire 80 percent interest in CTC.

Shortly after the purchase from ITT, the Pinochet government commenced privatization and liberalization of the state-owned telecommunications operators. Two legislative initiatives in the late 1970s and early 1980s structured this government undertaking. In 1978, the government enacted the National Telecommunications Policies Act, which authorized the government to grant licenses for the provision of telecommunications services.[419] In 1982, the Chilean government passed the General Law of Telecommunications, which regulates competition in the country's telecommunications markets.[420] Today, all of Chile's telecommunications markets are open to competition. The Ministry of Transportation and Telecommunications, the government agency responsible for regulating the telecommunications sector, allows any firm, domestic or foreign, to enter any particular telecommunications market, subject only to the Ministry's approval and grant of a franchise license.[421]

In 1988, after conducting an open international bid, CORFO sold 30 percent of its CTC shares to the Bond Corporation Chile, a subsidiary of Bond Corporation International, Ltd. of Australia (Bond).[422] Bond subsequently increased its stake in CTC to 50 percent and embarked on a plan to double the size of CTC's network by 1992.

In 1990, Telefónica Internacional, Telefónica de España's international holdings subsidiary, purchased most of Bond's interest in CTC and issued shares on the New York Stock Exchange in the form of American depositary receipts (ADRs).[423] Telefónica Internacional owns 43.63 percent of CTC.[424] The public holds the

419. ITU WORLD DEVELOPMENT REPORT, *supra* note___, at 63.

420. *Id.*

421. TPG RESEARCH & REPORTS, *supra* note___, at 4.

422. *Compania de Telefonos de Chile S.A., in* HOOVER'S HANDBOOK OF AMERICAN BUSINESS (1995).

423. Garibaldi & Torres, *supra* note___, at 264.

424. TELEFÓNICA DE ESPAÑA, S.A. 1993 SEC FORM 20-F, at f-11 (1994).

remaining interest. Chilean statute and CTC's bylaws prohibit any shareholder from owning more than 45 percent of CTC.[425]

When it sold the share of CTC to Bond, the Chilean government also privatized ENTEL. Telefónica Internacional purchased 20 percent.[426] Chase Manhattan Bank owns 10 percent.[427] Employees, the Chilean army, pension funds, and private investors own the remaining 70 percent.[428] In April 1992, the Fiscalía Nacional Económica ruled that Telefónica Internacional's ownership of both CTC and ENTEL violated antimonopoly rules; Chile's Supreme Court affirmed the decision.[429] Though apparently compelled to divest one of the holdings, Telefónica Internacional still retained its interest in both companies as of July 1994.[430]

Five other companies compete against CTC in providing local telephony service. All six of these local operators are permitted to provide long-distance services through independent subsidiaries.[431] In additional to these six local operators, other companies hold long-distance licenses. In total, eleven companies are licensed to provide long-distance service.[432] BellSouth is one of these companies; it holds a license to operate a competing domestic and international long-distance concession in Chile, and it began service in late 1994.[433]

Although CTC and ENTEL remain the dominant carriers, the privatization of the two companies and the liberalization of the telecommunications markets increased competition throughout Chile's telecommunications industry, which in turn has improved services and accelerated infrastructure development.[434] In 1989, Chile had only

425. *Compania de Telefonos de Chile S.A., in* HOOVER'S HANDBOOK OF AMERICAN BUSINESS (1995).

426. TELEFÓNICA DE ESPAÑA, S.A. 1993 SEC FORM 20-F, at f-12 (1994).

427. INTERNATIONAL TELECOMMUNICATIONS UNION, CROSS OWNERSHIP IN THE TELECOMMUNICATION SERVICE SECTOR 3 (unpublished report Mar. 23, 1995) [hereinafter ITU CROSS OWNERSHIP REPORT].

428. Garibaldi & Torres, *supra* note___, at 264.

429. *Id.* at 264.

430. TELEFÓNICA DE ESPAÑA, S.A.1993 SEC FORM 20-F, at f-11 (1994).

431. TPG RESEARCH & REPORTS, *supra* note___, at 5; *Rosenblut Remarks, supra* note___, at 12,15.

432. TPG RESEARCH & REPORTS, *supra* note___, at 5.

433. BELLSOUTH CORP., 1994 SEC FORM 10-K, at 12 (1995).

434. Garibaldi & Torres, *supra* note___, at 253.

4.5 telephone lines per 100 inhabitants; by 1995, it had thirteen lines per 100 inhabitants.[435]

Cable Television. In 1994, CTC acquired 80 percent of Intercom, Chile's largest cable television company. CTC plans to offer interactive video services over the broadband network.[436]

Wireless. Cellular services were first introduced to Chile in 1988. Although subscribership has grown rapidly, cellular service still has not established significant penetration. In 1990, 13,9000 people subscribed to cellular service; by 1992, subscribership had grown at a compounded annual growth rate of 115.1 percent but still amounting to only 64,400 people.[437]

There are four licensed providers of cellular service in Chile. Carriers have also requested authorization to provide personal communications (PCS), which Undersecretary Jorge Rosenblut expects to be available by the end of 1995.[438] CTC Celular, a subsidiary of CTC, and Cidcom Celular compete in Santiago and Valparaiso. BellSouth owns 100 percent of Cidcom.[439] Telecom Celular of Chile and VTR Celular compete in the rest of the country.

Between 1995 and 1999, the Chilean government plans to spend $40 million to establish "Calling Centers" in rural and poor areas where public pay telephones and fax machines will be available from private operators.[440] Chile's Undersecretary of Telecommunications, Jorge Rosenblut, expects 70 to 80 percent of these access lines to be wireless.[441]

435. *Rosenblut Remarks, supra* note___, at 11; TPG RESEARCH & REPORTS, *supra* note___, at 5.

436. *Compania de Telefonos de Chile S.A., in* HOOVER'S HANDBOOK OF AMERICAN BUSINESS (1995).

437. ITU WORLD DEVELOPMENT REPORT, *supra* note___, at A-28.

438. *Rosenblut Remarks, supra* note___, at 11.

439. BELLSOUTH, 1994 SEC FORM 10-K, at 10 (1995).

440. *Rosenblut Remarks, supra* note___, at 12.

441. *Id.* at 16.

Argentina

Until 1990, the Argentine government maintained the state-owned public telecommunications operator Entel as the sole provider of most telecommunications services in Argentina. In 1990, the government privatized Entel, splitting the operator into two companies, one to serve the northern half of the country and the other to serve the southern half. Each operator received a seven-year statutory monopoly (with the possibility for a three-year extension) to provide local, domestic long-distance and international telephone voice services, and to own and operate the nation's fixed-link telecommunications infrastructure. The government allows for competition in markets for terminal equipment, domestic data services, value-added services, and mobile communications. Large shares of the two privatized telecommunications operators were sold to consortia consisting mostly of foreign investors, including at least one foreign telecommunications operator with the marketing experience and technical expertise to manage the future development and operation of the country's telecommunications network.

Argentine telecommunications infrastructure and services are undeveloped and unsophisticated relative to more industrialized nations. Argentina has a population of approximately thirty-four million people and 11.78 telephone lines per 100 inhabitants, a penetration rate that is low compared to the U.S. (56.12 lines per 100 inhabitants) or France (51.52 lines per 100 inhabitants) but high compared to South American neighbors like Brazil (6.97 lines per 100 inhabitants) or Peru (2.73 lines per 100 inhabitants).[442]

Telephony. Before 1990, Empressa Nacional de Telecomunicaciones (Entel) owned and provided, on an exclusive basis, nearly all of Argentina's telecommunications infrastructure and services. The Republic of Argentina owned 100 percent of Entel, but in 1989, the government passed State Reform Law No. 23,696, pursuant to which Entel's telecommunications network was split in two, forming one basic telephony network for the north of Argentina and one for the south. The government granted licenses to own and operate the

442. TELEFÓNICA DE ARGENTINA, 1994 SEC FORM 20-F, at 8 (1995).

network to Telecom Argentina in the north and Sociedad Licenciataria Sur S.A. (SLS) in the south.[443]

The Comision Nacional de Telecomunicaciones (CNT) and the Secretaria de Obras Publicas y Comunicaciones (SOPYC), the two government agencies responsible for regulating Argentina's telecommunications industry, impose no restriction on foreign direct investment in an Argentine telecommunications licensee.[444] To the contrary, the Argentine government recognized that foreign capital, as well as the marketing and technical expertise of a foreign telecommunications operator, were necessary to develop Argentina's telecommunications infrastructure. As part of the privatization process, the government therefore sold majority interests in the bifurcated state-owned telecommunications operator to foreign consortia.

On November 8, 1990, Compania de Inversiones en Telecomunicaciones S.A. (COINTEL) purchased 60 percent of SLS from the Argentine government and changed the company's name to Telefónica de Argentina.[445] Telefónica Internacional (Telefónica de España's 76.22 percent-owned international operations subsidiary, in which the Spanish government owns the remainder)[446] owns 28.8 percent of COINTEL and has a total equity stake in Telefónica de Argentina of 19.4 percent.[447] Citicorp Venture Capital S.A. (a wholly owned subsidiary of Citicorp) and Inversora Catalinas S.A. (a wholly owned subsidiary of Techint Compania Tecnica Internacional S.A.) also own a share of COINTEL.

As part of the sale, Telefónica de España entered into a management contract with Telefónica de Argentina. The duration of the contract coincides with that of Telefónica de Argentina's monopoly license. Under the terms of the contract, Telefónica de España has nearly complete control of Telefónica de Argentina, subject only to certain buildout and quality of service requirements upon which the operating license is conditioned.[448]

443. *Id.* at 3.

444. *Id.*

445. *Id.* at f-9.

446. RICHARD CRANSTON, LIBERALISING TELECOMMUNICATIONS IN WESTERN EUROPE 143 (FINANCIAL TIMES BUSINESS INFORMATION 1995).

447. TELEFÓNICA DE ESPAÑA, S.A., 1993 SEC FORM 20-F, at 13 (1994).

448. TELEFONICA DE ARGENTINA, 1994 SEC FORM 20-F, at 13 (1995).

Also in November 1990, the Argentine government sold 60 percent of Telecom Argentina to Nortel Inversora, a consortium comprised of STET, France Telecom, J.P. Morgan, and a group of Argentine investors. STET holds 32.5 percent of the ordinary shares of Nortel Inversora.[449] France Telecom also owns 32.5 percent of Nortel Inversora.[450] Together, STET and France Telecom have operating control of Telecom Argentina.

In the two years following the sale of controlling interests to the consortia, the Argentine government sold or transferred the remaining 40 percent of the shares that it still held in each company. In December 1991, the government sold 30 percent of both Telecom Argentina and Telefónica de Argentina through an initial public offering on the Buenos Aires Stock Exchange and the New York Stock Exchange.[451] In December 1992, the government transferred the final 10 percent of the capital stock of the two companies to people who were Entel employees as of November 1990.[452]

To help attract significant foreign investment in the two telecommunications operating companies, the Argentine government granted both Telefónica de Argentina and Telecom Argentina perpetual licenses to provide "basic telephone services" within their respective regions. Basic telephone services are defined as: (1) the supply of fixed telecommunications connections that form part of the public telephone network or are connected to such network and (2) the provision through these links of local, domestic long-distance and international voice telephony services.[453] The licenses have been granted on an exclusive basis for seven years, beginning in November 1990. Upon the expiration of the seven-year monopoly in late 1997, both operators will have the option to extend the exclusivity period for three years, provided that certain performance standards have been met during the seven-year period.[454]

Telecom Argentina and Telefónica de Argentina jointly provide all international services as well as domestic data and telex

449. STET, SOCIETA FINANZIARIA TELEFONICA P.A., REPORT ON OPERATIONS: FIRST HALF OF 1994, AT 12 (1994).

450. ITU CROSS OWNERSHIP REPORT, *supra* note___, at 2.

451. TELEFÓNICA DE ARGENTINA, 1994 SEC FORM 20-F, at 3 (1995).

452. *Id.* at f-9.

453. *Id.* at 18.

454. *Id.* at 3.

services through two commonly owned subsidiaries. Pursuant to the State Reform Law, the Argentine government formed Telecomunicaciones Internacionales de Argentina S.A. (Telintar) and Startel S.A. (Startel).[455] Telintar received from the government an unlimited license on an exclusive basis for seven years (with a possible three-year extension) to provide international telecommunications services, including telephone, international data transmission, international telex, and international direct connections.[456] Startel received an unlimited license on a non-exclusive basis to provide domestic telex and data transmission services.[457] Telecom Argentina and Telefónica de Argentina both own 50 percent of Telintar and Startel.

Wireless. Three companies hold licenses to provide cellular service in Argentina: Movicom, Movistar, and CTI. The Argentine government has divided the cellular market into the Buenos Aires region and the remainder of the country. Within the near future, two companies will compete in each area.

Movicom S.A., an independent cellular operator introduced cellular service to the Buenos Aires area in 1989. BellSouth owns 42.5 percent of Movicom.[458] Motorola, CitiCorp, and the Macri Group (a group of Argentine investors) own the rest.

In 1992, the Argentine government licensed Movistar to compete against Movicom in providing cellular service to Buenos Aires and the surrounding areas.[459] Telefónica de Argentina and Telecom Argentina both own 50 percent of Movistar.[460]

In 1994, the Argentine government awarded a license to the CTI Consortium (CTI) to provide cellular service in all regions of Argentina other than the Buenos Aires area in which Movicom and Movistar compete. GTE, AT&T, and two Argentine companies—Clarin and Benito Roggio—own CTI.[461] The independent provider of mobile telephone service has already entered into an interconnection agreement with both Telefónica de Argentina and

455. *Id.*
456. *Id.* at 20.
457. *Id.*
458. ITU CROSS OWNERSHIP REPORT, *supra* note___, at 2.
459. TELEFÓNICA DE ARGENTINA, 1994 SEC FORM 20-F, at 13 (1995).
460. *Id.* at 4.
461. ITU WORLD DEVELOPMENT REPORT, *supra* note___, at 64.

Telecom Argentina. After a two-year period during which CTI will be able to build a network and establish a customer base, the existing fixed-link companies—Telecom and Telefónica—will be licensed to provide a competing cellular service within their respective regions.[462]

462. *Id.*